To: "Chambers, Jenny" [JChambers@mt.gov]; ina Laidlaw/MO/R8/USEPA/US@EPA[]
Cc: Rosemary Rowe/MO/R8/USEPA/US@EPA;"Suplee, Mike" [msuplee@mt.gov]; Suplee, Mike" [msuplee@mt.gov]; May, Jeff" [jmay@mt.gov]; loise Castillo [Eloise_Castillo@abtassoc.com]
From: Lauren Praesel
Sent: Tue 8/30/2011 7:20:33 PM
Subject: RE: Private facilities review

Thank you for the responses.
Another question...The Conoco SOB indicates that it has a compliance schedule to meet ammonia limits and the facility was to submit a compliance plan by January 2011. Can we get a copy of that plan so we can see what they plan to do under the baseline to reduce ammonia?
Regards,
Lauren Praesel

-----Original Message-----
From: Chambers, Jenny [mailto:JChambers@mt.gov]
Sent: Friday, August 26, 2011 12:23 PM
To: Laidlaw.Tina@epamail.epa.gov
Cc: Rowe.Rosemary@epamail.epa.gov; Lauren Praesel; Suplee, Mike; May, Jeff
Subject: RE: Private facilities review

Tina -

Here is some general answers to the questions below. Some of them would be better answered by Mike.

Question 1:

The presumption is that if the stream is listed for nutrients (or whatever) then the ambient concentrations are at or near the water quality standard. Correct? In which case a mixing zone would not have much effect on the limit for that parameter since ambient concentrations are taken into account when establishing limits designed to achieve the water quality standard at the edge of any granted mixing zone.

So, if the 303(d) listing is valid and the receiving water is not meeting the standard (or is close), a mixing zone isn't going to provide much relief. However, if ambient monitoring upstream of the discharge showed assimilative capacity, then yes, dilution could be a factor in developing an effluent limit, as long as we don't allow an increase for a listed parameter. This is why our typical approach has been to "cap" discharges on listed streams to existing levels (no increase) pending completion of the TMDL. The theory being that the TMDL will cause them to have to improve treatment and achieve some sort of reduction so the listed waterbody achieves the standards.

Also, I believe that with the establishment of the numeric nutrient standards and the large river modeling and evaluation work that Mike have impacts on stream listings or segments currently carried forward on the 303(d) list.

2.

After a quick reviewed the SOB for Sidney. The language regarding establishing a mixing zone refers to a ground water mz for seepage from other ponds that are not as near (as Outfall 002) the Yellowstone. Compliance with their 002 effluent limits is assessed in monitoring wells between the pond and the river.

Here again though, I think we could establish effluent limits based on dilution if necessary, but I don't see how that will be applicable with nutrients.

3.

I reviewed the file and didn't see anything else regarding Western Sugar relocating their outfall directly to the Yellowstone. This is not a current plan.

4.

Mixing zones are reviewed with each permit renewal. The current mixing zone language in Holcim's permit would likely remain as is (no mixing zone) unless the nutrient standards and mixing zone rules specifically required that nutrient limits be based on dilution. Holcim's mixing zone could also be reassessed if they installed a diffuser or otherwise altered the configuration of their discharge pipe. Also, the stream is listed as impaired so information address in answer #1 would also be evaluated.

5.
I defer to standards on this, but my understanding is nutrient limits will be based on the 30-day average or 14-day?

6.

This question is referring to ground water outfalls. The surface water standards would not apply to these. I've attached the document she requested.

-----Original Message-----
From: Laidlaw.Tina@epamail.epa.gov [mailto:Laidlaw.Tina@epamail.epa.gov]
Sent: Thursday, August 25, 2011 11:30 AM
To: Chambers, Jenny
Cc: Rowe.Rosemary@epamail.epa.gov; Lauren_Praesel@abtassoc.com
Subject: Fw: Private facilities review

Would you be able to answer these questions for our contractor? Mike is
out until next week. Thanks!

Tina Laidlaw
USEPA Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
406-457-5016

----- Forwarded by Tina Laidlaw/MO/R8/USEPA/US on 08/25/2011 10:25 AM

From: Lauren Praesel <Lauren_Praesel@abtassoc.com>
To: "Suplee, Mike" <msuplee@mt.gov>
Cc: Eloise Castillo <Eloise_Castillo@abtassoc.com>, Tina
Laidlaw/MO/R8/USEPA/US@EPA, Gary Russo/DC/USEPA/US@EPA, Erik

Edgar <Erik_Edgar@abtassoc.com>
Date: 08/25/2011 09:16 AM
Subject: RE: Private facilities review

Mike – I have a few more questions regarding the industrial facilities analyses:

1. In general, does MDEQ allow mixing zones when a water body is on the 303(d) list as impaired for a particular pollutant? For example, Centex Harvest States Coop discharges Yellowstone River (B-2) which is listed on the 2010 303(d) list for DO and nutrients/eutrophication. The spreadsheet indicates that it would receive dilution. (Similar situations exist for Exxon Mobile, Holcim Trident, Sidney Sugars,
2. For Sidney Sugars, the main outfall is Outfall 002 (there have only been 3 discharges from Outfall 001 since 1986). Outfall 002 is a pond with wastewater that seeps into groundwater which then seeps into Yellowstone River. The river is on the 303(d) list for nutrients. In addition, the SOB indicates that the facility must conduct a study to receive a mixing zone. Do you have any updated/additional information regarding this study or the likelihood of the facility receiving a mixing zone in the future (especially given the existing impairment status of the waterbody)?
3. The SOB for Western Sugar Coop indicates that it is considering/planning to discharge directly to Yellowstone River (rather than to Yegen Drain, a tributary) so that they may receive dilution. Do you have any additional data on these plans?
4. For Holcim Trident, even though the effluent flow is very small relative to the receiving water flow the SOB indicates that the facility is not allowed a mixing zone because the slow rate of discharge prevent adequate mixing. The spreadsheet indicates that they would receive a mixing zone/dilution. Do you have any data to indicate why this conclusion would be different for the revised nutrient criteria than it is for the existing permit?
5. In most permits it looks like effluent limits are estimating using TSD procedures for daily maximum and average monthly limits. One permit has instantaneous maximum TN and TP limits. Do you have any sense of the average period MDEQ will use for TN and TP limits?
6. For Stillwater Mining the SOB indicates that the facility would get a mixing zone for TN for Outfalls 002 and 003 (discharges to groundwater) but the spreadsheet indicates that they would not. In addition, the SOB indicates that no limit is needed for TP because the break-through analysis indicates a break-through period of 30 years based on conservative assumptions. Should we use the data in the SOB/permit or what you provided in the spreadsheet? Also, the SOB indicates that the facility did an analysis (contained in the administrative file) indicating that the existing 100 lb/day TN limit is protective of the stream and downstream TN concentrations. Do you have a copy of

that to send to us?

Thanks,
Lauren

From: Suplee, Mike [mailto:msuplee@mt.gov]
Sent: Monday, August 22, 2011 11:49 AM
To: Lauren Praesel
Cc: Eloise Castillo; Tina Laidlaw (Laidlaw.Tina@epamail.epa.gov)
Subject: RE: Private facilities review

Hi Everyone;
Much of the information you need to carry out fairly accurate estimates of effluent limits is found on the 2nd tab (SupleeReview) of the spreadsheet I sent last week (IndustrialFacilities_reviewed.xlsx). There, you will see a column with the discharge quality for whatever nutrients they monitored (often these are not TN or TP, but we can make the safe assumption that if they exceed the solubles they will exceed totals). A few columns over (column AG) in the same tab is 'Assumed Nutrient Standard of Receiving Water'. Those are the nutrient standards.

Now, for dischargers to small streams (Conoco, W. Sugar, REC) I assumed no dilution is available and the standards need be met end-of-pipe. All costs for upgrades must be judged relative to that.

For dischargers to the larger rivers, you are missing some receiving water data at the low flow (we use seasonal 14Q10 for nutrients) which you will need to calculate dillution. I provide these below (or estimates thereof):

Yellowstone River at Sidney: Seasonal 14Q10 (July-Oct) = 3,550 CFS
Yellowstone River, Billings: Seasonal 14Q10 (July-Oct) = 2,000 cfs (75 seasons of record)
Yellowstone River, Laurel (estimated): 1,850 cfs (less CFYR and Red Lodge Creek)
Missouri River, Holcim Trident (Toston gage): 14Q10 (July-Oct) 1,270 cfs

For the Yellowstone River at Sidney, the ambient nutrient concentrations at 14Q10 low flow are ~0.045 ug TP/L and ~0.43 mg TN/L. With these data, and the ambient Yellowstone River nutrient data for Billings and Laurel in the attached spreadsheets (to carry out the calculations for Exxon Mobile and Cenex Harvest, respectively), you should have all the basic info needed to estimate the degree of upgrade required. You may come up with somewhat different conclusions than I did for the large-river dischargers, I did a very quick estimation.

I will be in the field all week and will not be able to see emails.
Tina should be able to help with additional questions.

Mike

From: Lauren Praesel [mailto:Lauren_Praesel@abtassoc.com]
Sent: Friday, August 19, 2011 8:24 AM
To: Suplee, Mike
Cc: Eloise Castillo; Tina Laidlaw (Laidlaw.Tina@epamail.epa.gov)
Subject: RE: Private facilities review

Mike,

Is MDEQ going to estimate actual effluent limits for each facility? If not, is there any way we can get more detailed data on available dilution so that we can project effluent limits for each facility?

For example, in the spreadsheet the data indicate that Holcim Trident - Cement Manufacture is discharging at 2.5 mg/L to 10.10 mg/L TN and has an instream criterion of 0.8 mg/L. To comply with effluent limits based on this criterion the facility would need dilution of approximately 13:1 based on the maximum value (using a simple mixing zone equation). It is not clear if 13:1 meets the definition of "probably" having "substantial" dilution. Also, the facility's existing permit indicates that it does not have a mixing zone for its current discharge.

We would also need to project effluent limits to determine the difference between "will need upgrade" as is the case for Cenex Harvest States Cooperative and "will need major upgrade" as is the case for Western Sugar Cooperative in terms of different treatment technologies/controls.

Thanks,
Lauren Praesel

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From: Eloise Castillo
Sent: Thursday, August 18, 2011 5:47 PM
To: Erik Edgar; Lauren Praesel
Subject: FW: Private facilities review

From: Suplee, Mike [mailto:msuplee@mt.gov]
Sent: Thursday, August 18, 2011 5:45 PM
To: Blend, Jeff; Eloise Castillo; Laidlaw.Tina@epamail.epa.gov
Subject: Private facilities review

Hi;

I have completed my broad-brush assessment of the 11 facilities we selected for determining if they would be able to comply with the base numeric nutrient standards. I went over the results with Permitting as well.

At this stage, I have put the results in a table in the 'Summary' tab. It simply states whether an upgrade is likely or not.

Some additional details are found in the 'SupleeReview' tab. If further analysis is needed, or if you want me to go over it, please let me know.

Mike

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